

Mapping Research for SCAR Food Systems Strategic Working Group

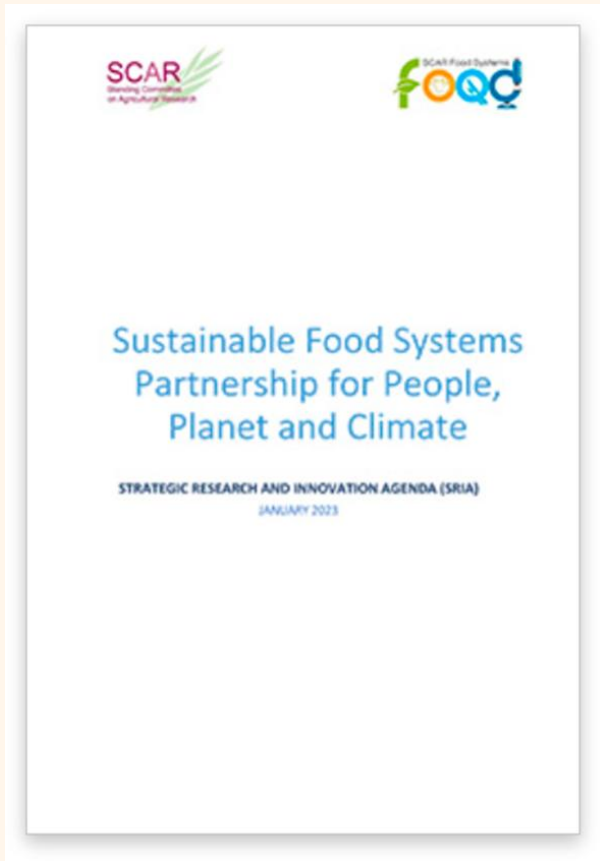
26th March



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Background of the study

Background



- **SCAR FS SWG** supported the development of a new co-funded European Sustainable Food Systems Partnership based on a **Strategic Research and Innovation Agenda (SRIA)**
- **SCAR Framework Contract (2022-23)**: creation of a **SCAR Support Team** financed by the EC for **accompanying SCAR and SCAR S/CWGs planned activities** and II mandate achievements, as the ones of FS SWG
- **SCAR Support Team contribution to FS SWG** work of animation of an **ongoing multi-stakeholder debate** intended to the **SRIA finalization** and **SFSP prototype** realization

Goal of the study

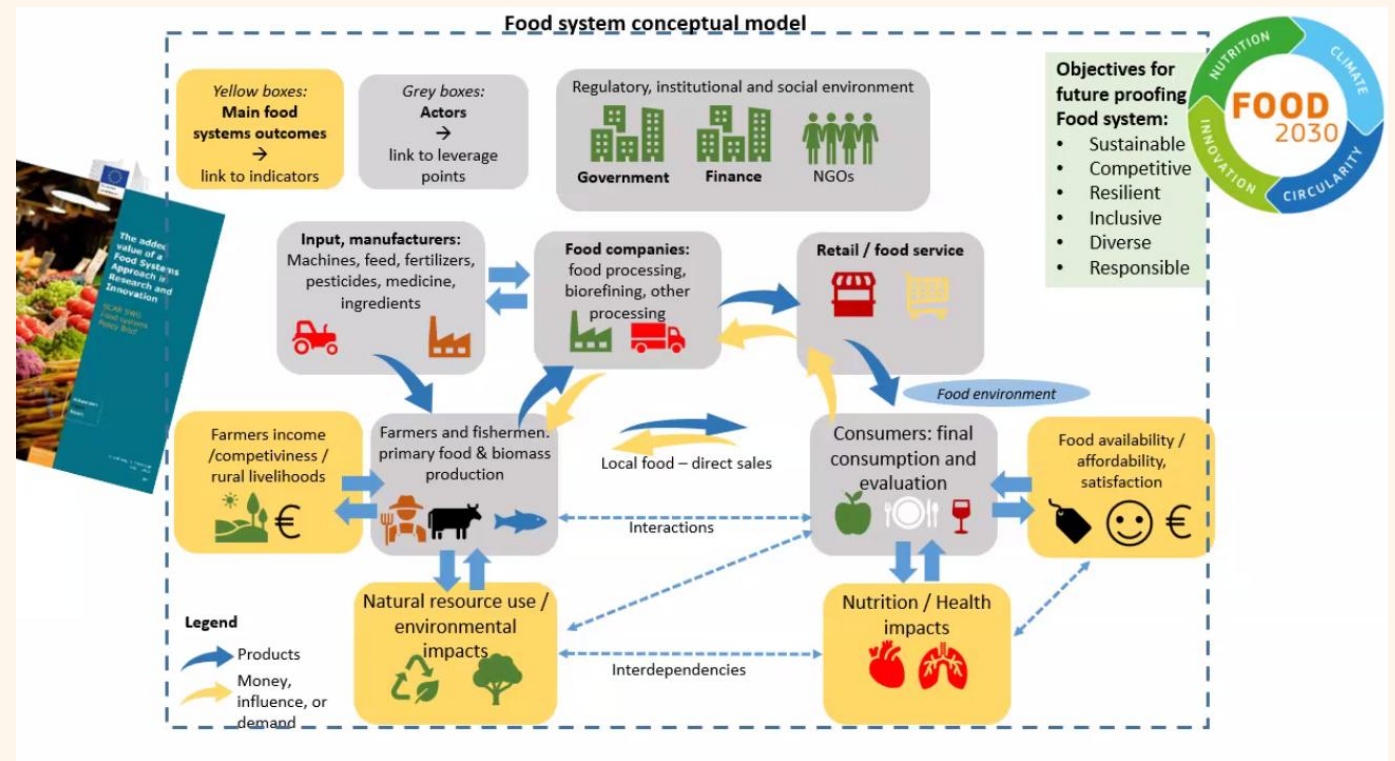
The goal

- Identification of **Needs and Gaps** as related to the **FS SRIA R&I actions**
- Identification of **Priority research, development, and innovation challenges** that must be focused upon in the **years ahead** to give guidance to all funders of R&I (industry, EU, national and regional).

The theoretical approach

A Food Systems approach towards R&I

- A food systems-based approach towards R&I that puts **actors, their activities and interactions** among them in a central position
- understand **the interdependencies** in terms of how actions towards one actor's objectives may create a feedback reaction from other parts of the FS, which again influences future actions and outcomes
- help identifying **effective levers for change**



(Halberg and Westhoek, 2019)

Strategic Research and Innovation Agenda Focus Areas

CHANGE THE WAY WE EAT (EAT)

- Transition to healthy & sustainable diets: shifting food environments and consumer behavior to promote sustainable consumption of safe, healthy, nutritious, affordable, accessible, equitable and culturally acceptable tasteful foods while tackling malnutrition and promoting health

CHANGE THE WAY WE GOVERN FS (GOVERN)

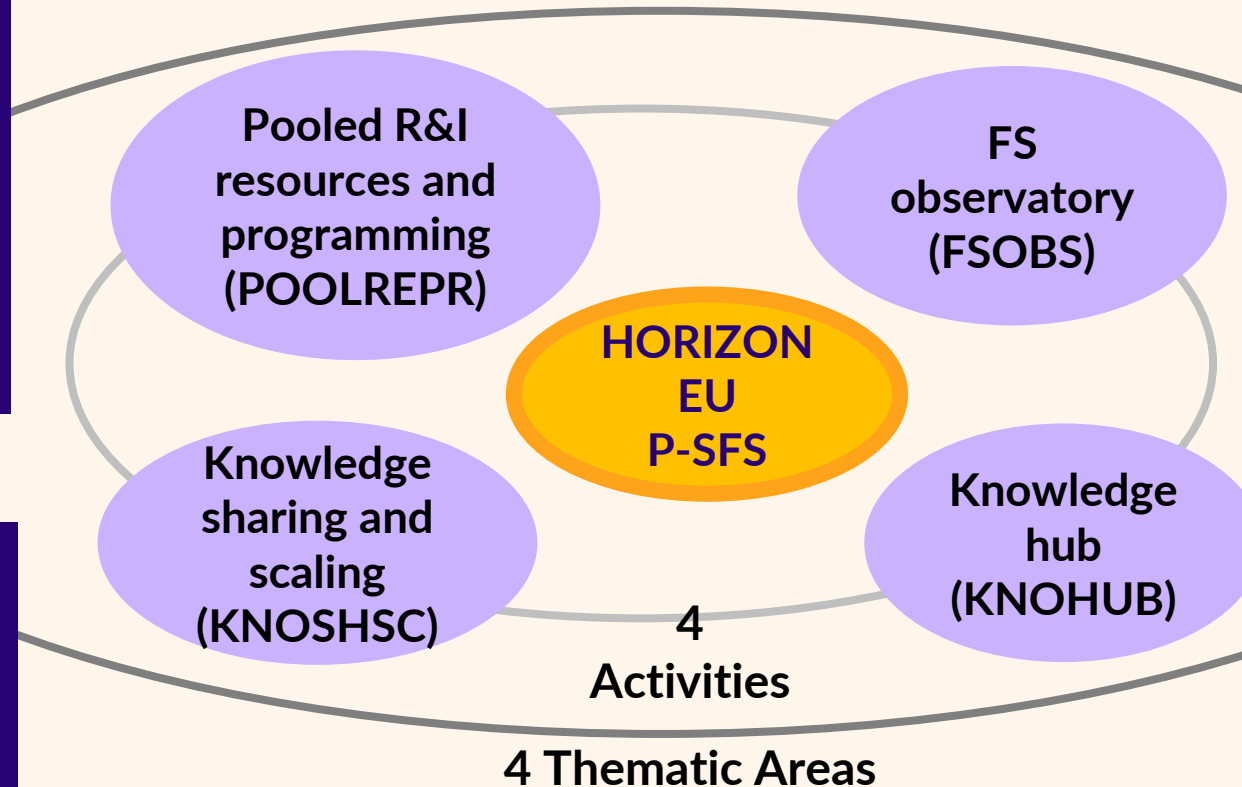
- Ensure effective and inclusive governance of the transition towards safe and sustainable EU food systems
- Support the use of evidence-based levers, incentives and steering mechanisms for local, national, EU and global transition pathways

CHANGE THE WAY WE PROCESS AND SUPPLY (SUPPLY)

- Supply-side innovation towards carbon neutrality and circularity, reorienting the food environment to support healthy and sustainable diets

CHANGE THE WAY WE CONNECT (CONNECT)

- Citizen engagement and consumer trust in reorienting food systems



Source: our elaboration on SRIA, 2023

Methodology

Methodology: a co-designed portfolio analysis

- **Co-design of the portfolio methodology and participatory results discussion and validation with FS SWG competent experts, built on Achterbosch et al (2019):**
- Participatory research steps:
 1. **Projects Mapping (*purposeful sampling*):** inventorying of **30 EU funded R&I projects** that apply a **FS approach** based on a review of projects published in the public domain
 2. **Projects overview analysis and synthesis (*quali-quantitative methods*):** identification of R&I actions relevant characteristics, achievements, and gaps with reference to a list of **67 co-identified descriptors**
 3. **Case-projects selection and analysis:** identification and in-depth thematic analysis of **10 illustrative project-cases** in the **SRIA** focus areas
 4. **Data gathering, elaboration and narrative synthesis** towards the identification of relevant R&I needs contributing to the **SRIA development and implementation**

Projects Mapping

Keywords

- 🌿 Food systems
- 🌿 Food systems approach
- 🌿 Food systems transition
- 🌿 Food systems resilience
- 🌿 Food systems innovation
- 🌿 Food systems sustainability
- 🌿 Food systems governance

Databases

- 🌿 **CORDIS** (<https://cordis.europa.eu/en>)
- 🌿 KEEP.EU (<https://keep.eu/>)
- 🌿 EIP- AGRI (<https://ec.europa.eu/eip/agriculture/en/eip-agri-projects>)
- 🌿 ERASMUS + (<https://erasmus-plus.ec.europa.eu/it/projects>)
- 🌿 SUSFOOD ERA-NET (<https://susfood-db-era.net/main/>)
- 🌿 ERA LERN (<https://www.era-learn.eu/>)
- 🌿 LEAP4FNSSA project database (https://library.wur.nl/WebQuery/leap4fnssa-projects?record-status=complete&wq_srt_desc=leap4fnssa/@isn)
- 🌿 FOSC ERA-NET Cofund Food Systems and Climate (<https://www.foscera.net/en/foscera/Projects.htm>)
- 🌿 ICT-AGRI-FOOD (<https://ictagrifood.eu/>)

Projects Mapping: selection criteria

Temporal criteria

End date: from 01-01-2019

Project typology

EU funded (H2020 and beyond)

Geographical criteria

Multi-regional projects (particular involving Eastern countries or non-member states)

Obligatory thematic criterion

- Adoption of a **FS approach** (either implicit or explicit)

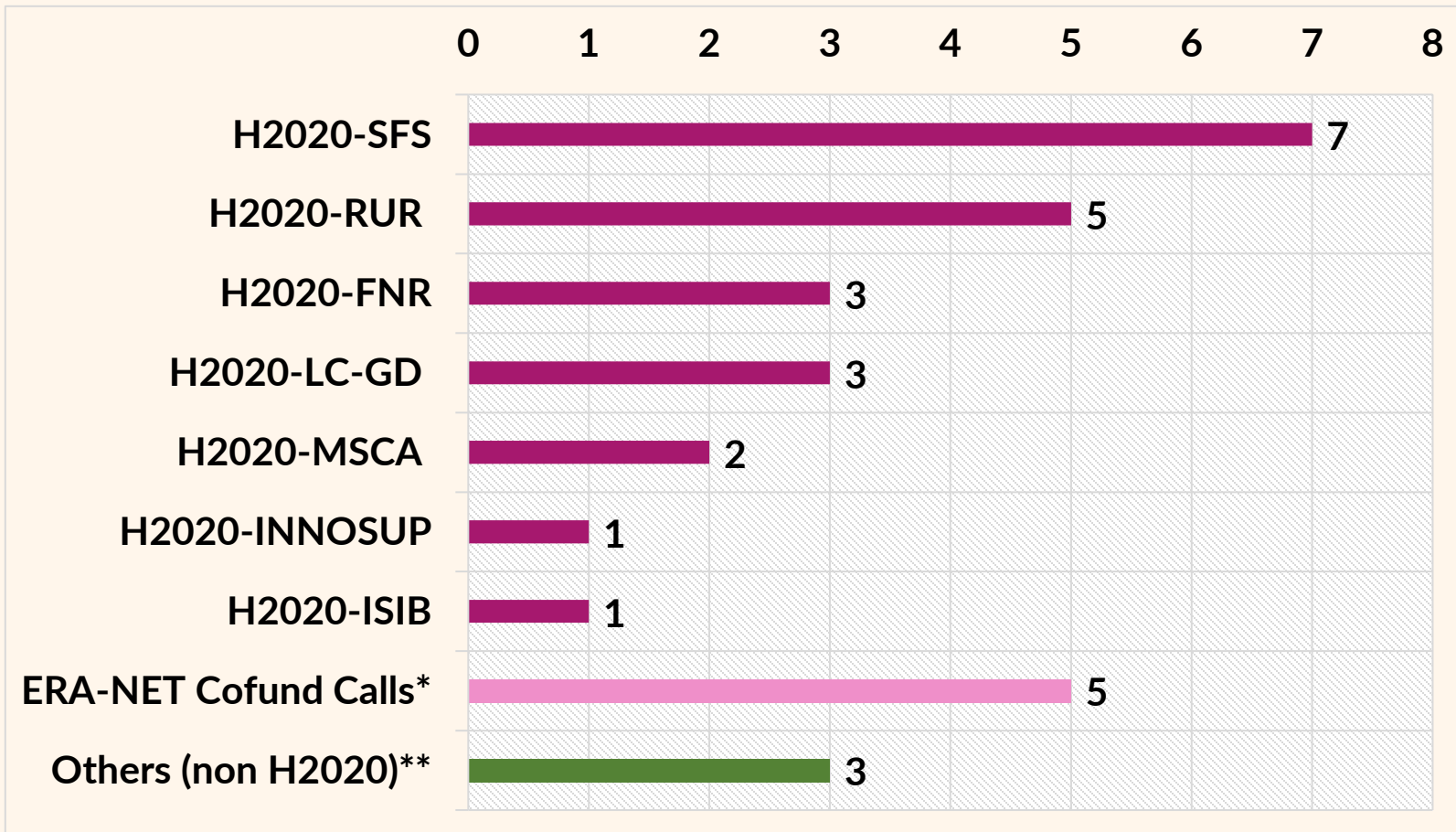
Priority thematic criteria

- Targeting of the **post-harvest phase**
- Considering representative and illustrative **case studies**
- Considering various **building blocks (>1)** of the food systems
- Based on **interdisciplinary** research strategies
- Adopting **multi-stakeholder approach** and participatory methods of research

Excellence thematic criteria

- Providing **novelties** (theoretical, methodological, technical)
- Providing new **indicators of impact, sustainability, and resilience**
- Developing **scenario analyses**
- Creating new **datasets or inventories**
- Availability and **accessibility of results** (at present)

Projects Overview Analysis



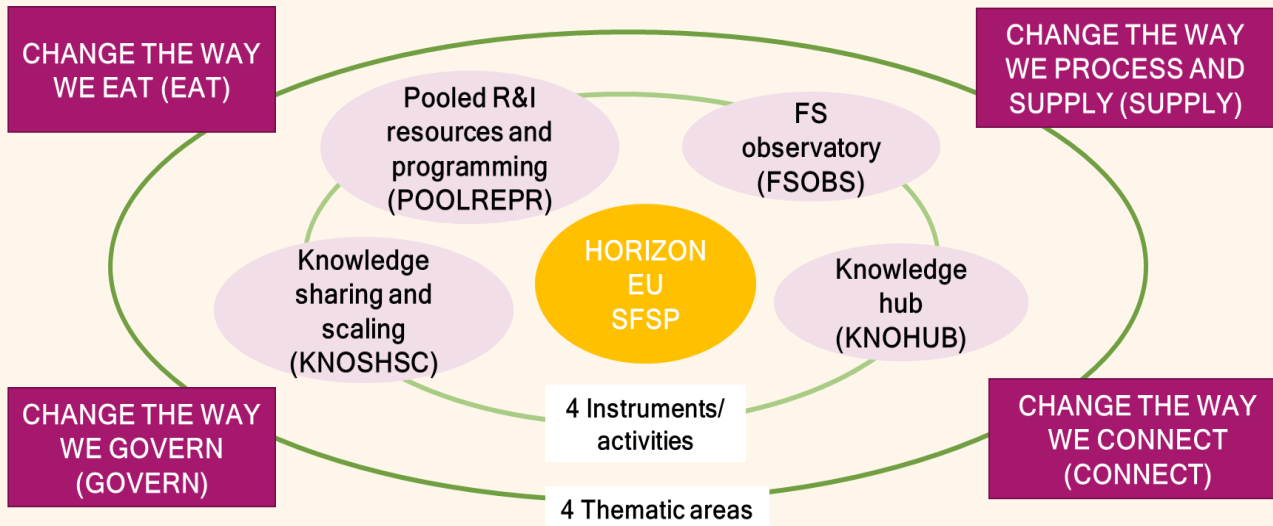
Number of projects per type of funding programme

*ERA-NET Cofund calls, including SUSFOOD2/CORE Organic; FOSC; ICT-AGRI-FOOD

**Other types, including Erasmus+ and Interreg

Results

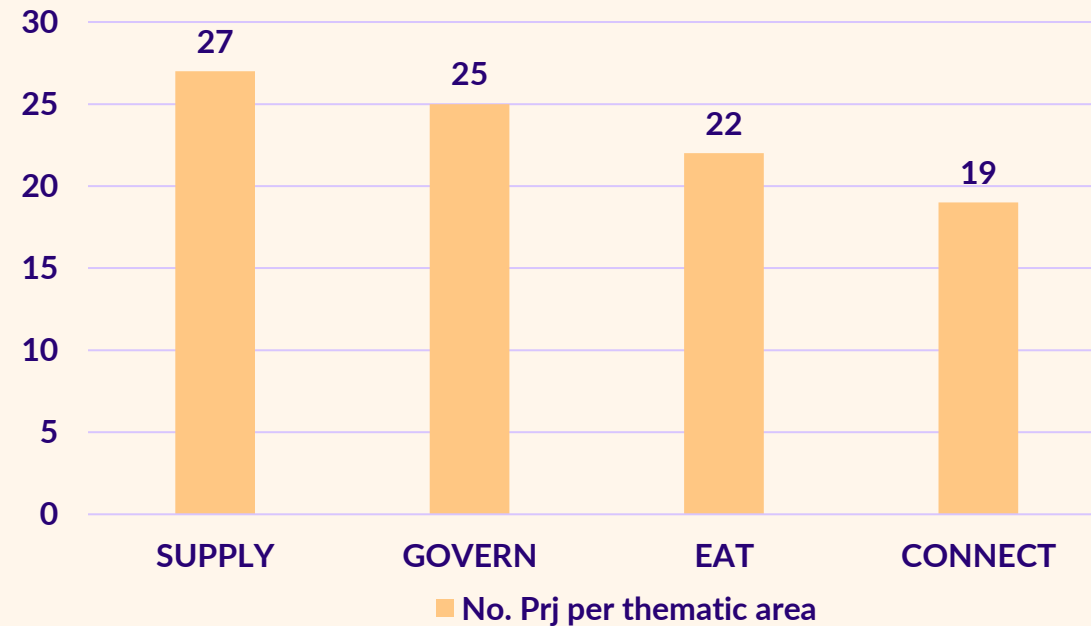
Projects analysis per focus areas of the SRIA



Our elaboration on SRIA model

Each project faces more than one thematic area

THEMATIC AREAS



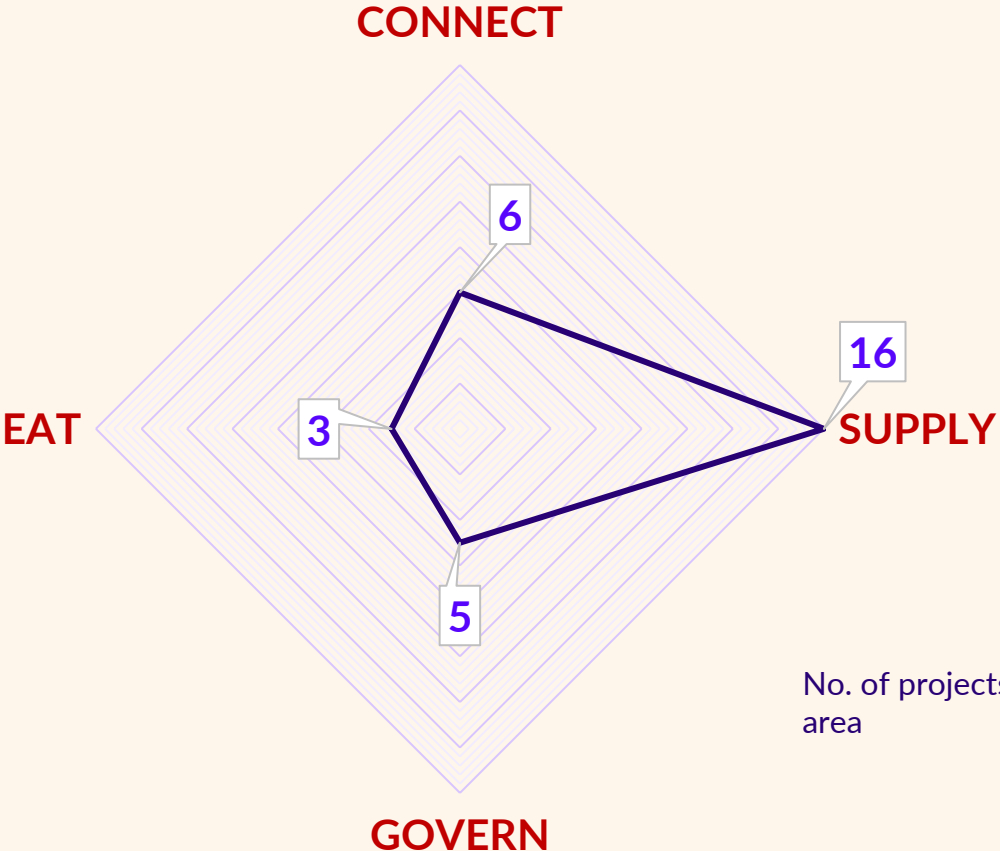
Our elaborations on secondary data

Projects analysis per focus areas of the SRIA

PREVALENT THEMATIC AREAS

“Change the way we process and supply” is the prevalent thematic area for most of the projects (16/30 projects),

while “Change the way we eat” only for 3



No. of projects that have a specific focus on the area

Illustrative examples of case-projects in SRIA thematic areas



CHANGE THE WAY WE EAT
(EAT)

<https://iclei-europe.org/projects/?c=search&uid=sbvLcWAM>

CHANGE THE WAY WE PROCESS AND SUPPLY
(SUPPLY)



<https://mushnomics.org/>



CHANGE THE WAY WE GOVERN
(GOVERN)

<https://www.microbiomesupport.eu/>

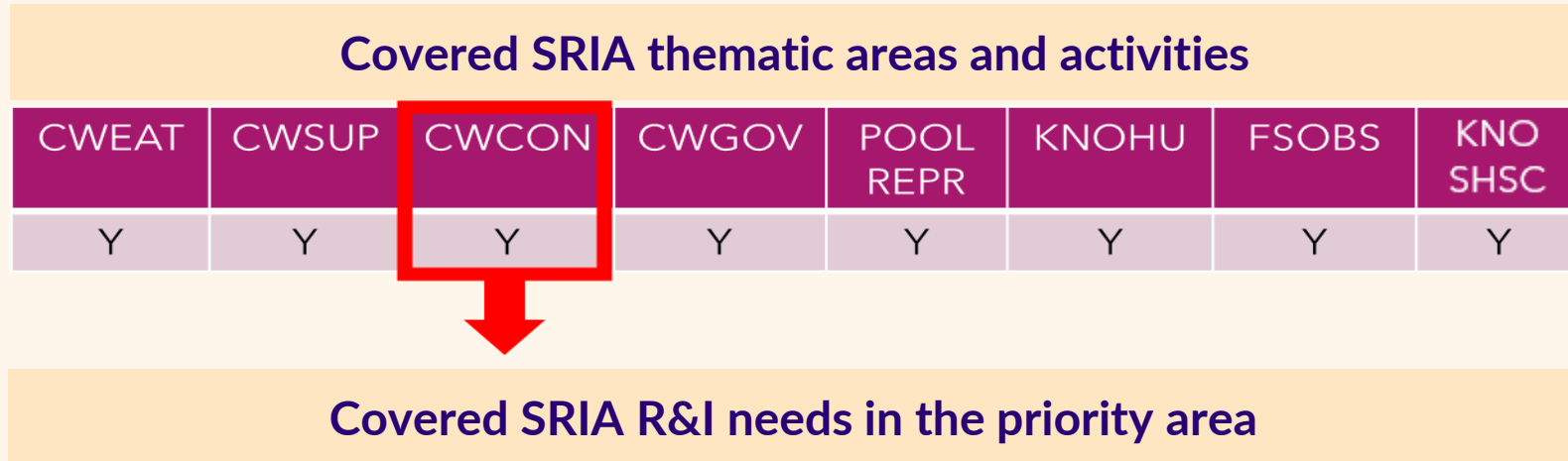
CHANGE THE WAY WE CONNECT
(CONNECT)



<https://cities2030.eu/>

Our elaborations on secondary data

Call/Action	H2020-FNR-2020 (IA)
Date	Oct 20 – Sept 24
Countries	20 (led by UNIVERSITA' CA' FOSCARI VENEZIA, Italy)
Aim	Create a future proof and effective urban food systems and ecosystems (UFSE) via a connected structure centered in the citizen, built on trust, with partners encompassing the entire UFSE. CITIES2030 commit to work towards the transformation and restructuring of the way systems produce, transport and supply, recycle and reuse food in the 21st century.

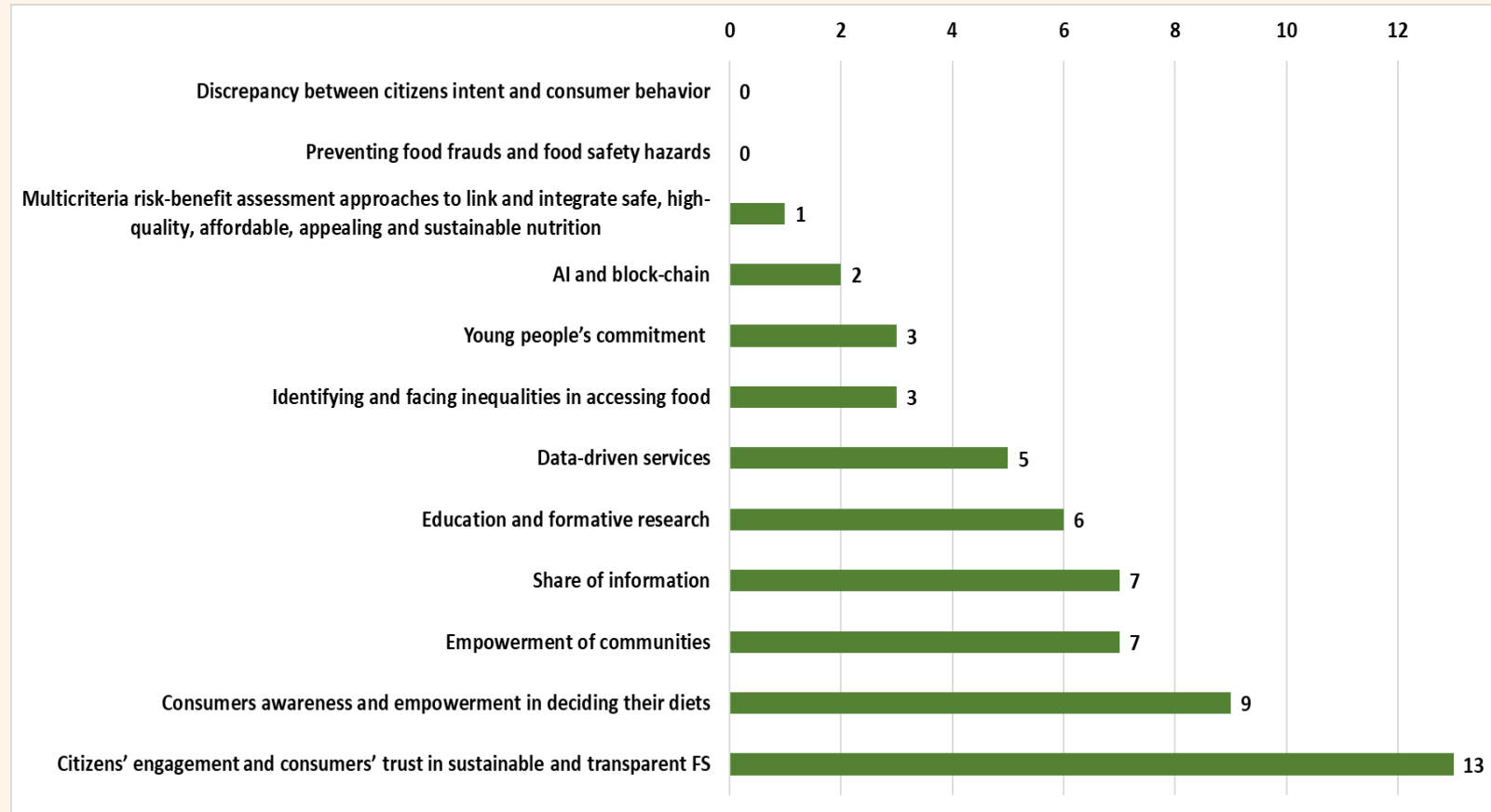


- ✓ **Citizens' engagement and consumers' trust** in sustainable and transparent FS
- ✓ **AI and block-chain** (*blockchain-based data-driven UFSE management platform*)
- ✓ **Data-driven services**
- ✓ **Empowerment** of communities
- ✓ **Education and formative research**

R&I needs in SRIA Thematic areas:

«Change the way we **CONNECT** with food systems»

- ❑ Discrepancy between citizens intent and consumer behavior
- ❑ Preventing food frauds and food safety hazards
- ❑ Multi-criteria risk-benefit assessment approaches to link and integrate safe, high-quality, affordable, appealing and sustainable nutrition
- ❑ AI and block-chain
- ❑ Young people's commitment
- ❑ Identification and facing of inequalities in accessing food
- ❑ Education



No. of projects per topic in the area

R&I needs in SRIA Thematic areas

EAT

- ❑ Changes in **consumers life-style, preferences and behaviors**
- ❑ Sustainable **animal-based food**
- ❑ **Microbiome** for healthy organisms
- ❑ **Public food procurement**
- ❑ **Diversity** in dietary habits
- ❑ **AI/Digitalization** for involving consumers

SUPPLY

- ❑ Processes for preserving **food naturalness, nutritional density, and optimizing healthy properties**
- ❑ **By-products** for food and non-food uses
- ❑ Technological and financial **lock-ins at all TRL scales**
- ❑ Producers/suppliers **awareness and access to new market-oriented opportunities**
- ❑ Enhanced **education and empowerment**
- ❑ **FS outcomes** (soc., env.) evaluation
- ❑ **Food products diversification**

HORIZON EU P-SFS

- ❑ Regional Innovation Platforms
- ❑ **Multi-level integrated food policies**
- ❑ Urban networks, **City-regional collaboration** models, City Region Food Systems
- ❑ Evaluation of the **impact of governance** in different building blocks
- ❑ Decision-making based on **true cost accounting** that embeds environmental and social externalities
- ❑ **New business models and marketing** approaches

- ❑ Discrepancy between **citizens intent and consumer behavior**
- ❑ Preventing **food frauds and food safety hazards**
- ❑ **Multi-criteria risk-benefit assessment** approaches to link and integrate safe, high-quality, affordable, appealing and sustainable nutrition
- ❑ **AI and block-chain**
- ❑ **Young people's** commitment
- ❑ Identification and facing of **inequalities in accessing food**
- ❑ **Education**

GOVERN

CONNECT

Concluding Key Insights

Concluding Key Insights (1/2)



- **The methodology** - Participatory co-design of the portfolio methodology as an effective approach and importance of the R&I projects database creation
- **The operationalization** - Based on R&I covered needs and gaps, the portfolio analysis development contributes to the SRIA ment, implementation and refinement

European Commission, Directorate-General for Research and Innovation, Scaramuzzi, S., Gerini, F., Gabellini, S., Casini, L. (2023) Research and innovation needs and gaps for sustainable food systems: a portfolio analysis of EU funded projects, Publications Office of the European Union, 2023, <https://data.europa.eu/doi/10.2777/93776>.

Concluding key insights (2/2)

- The identification of major R&I needs for future-proof FS fosters the need for **supporting actions** that feeds **FutureFoods Partnership** and **SCAR** role for the **coordination, alignment and leveraging of new R&I efforts** to:
 - support **FS conceptualization** (theoretical and methodological)
 - realizing **open shared and aggregated datasets and inventories**
 - develop **methodologies and tools for assessing** R&I projects impact, FS sustainability performance, and making scenario analyses.





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Thank you!

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